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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,264	07/02/2001	Kiyoshi Kamitani	Q64664	7751

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EXAMINER	
FLETCHER III, WILLIAM P	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/895,264	KAMITANI, KIYOSHI	
	Examiner	Art Unit	
	William P. Fletcher III	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,6,9,12-14,17-22 and 24-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *12-14,17-22,24 and 25* is/are allowed.

6)☒ Claim(s) *1-3,5,6,9 and 26-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see the amendment and response, filed 7/14/2004, with respect to the claim objection set-forth in the Office action mailed 4/12/2004, have been fully considered and are persuasive. The objection to claim 12 has been withdrawn.

2. Applicant's arguments filed in the above-mentioned amendment and response, with respect to the art rejections set-forth in the prior Office action have been fully considered but they are not persuasive. Specifically, applicant argues:

> ...nowhere does Yapel teach or suggest changing a condition of the drying enclosure (second heating means) 198 while the web (support) is being conveyed. Rather, the section of Yapel (column 13, lines 57-67) cited by the Examiner simply indicates that the velocity of the air flow and the temperature of the drying gas may progressively increase as the coated web moves through the drying enclosures 192, 194, 196 and 198. That is, the temperature of the drying gas in each of the individual drying devices remains fixed such that the temperature of the drying gases in the downstream drying enclosures is greater than the temperature of the drying gases in the upstream drying enclosures. Thus, Yapel simply teaches that the temperature of the drying gas in the drying enclosure (the second drying means) 198 is greater than the temperature of the drying gas in the drying enclosure (the first drying means) 196 (and the drying enclosures 192 and 194).

The examiner disagrees.

The teaching of Yapel, referred to above, is reproduced below:

> For example, the drying enclosures **192** may utilize low velocity laminar flow, the drying enclosure **194** may utilize medium velocity laminar flow and the drying enclosure **196** may utilize high velocity laminar flow, substantially drying the coated web **206**. Medium velocity air flow refers to air flow of about 61.5 meters/min.(200 feet/min.) to about 400 meter/min. (1300 feet/min.). High velocity air flow refers to air flow of about at least 400 meter/min. (1300 feet/min.). The transitional enclosures **210** sufficiently isolate the drying enclosures **192–198** that different drying gases may optionally be used in the drying enclosures **192–198**. After the coated web **206** is dry-to-touch, a turbulent flow of drying gas may be utilized in the drying enclosure **198** to accelerate the final phases of the drying process. Increasing the temperature of the drying gas or in the oven accelerates drying, but may also increase surface imperfections. Therefore, the temperature of the drying gas or in the oven may also progressively increase as the web moves through the drying enclosures **192–198**.

This disclosure is much broader than asserted by applicant and there is no evidence of record requiring applicant's narrow interpretation. Lines 65-68 clearly teach "progressively increasing" the temperature as the coated support moves through the drying means. While this disclosure may support applicant's position — each upstream enclosure's having a fixed temperature that is lower than the fixed temperature of the adjacent downstream enclosure — it also supports the examiner's position — that the temperature within each drying means is progressively increased as the support is conveyed. Because there is no evidence of record indicating that this disclosure of Yapel *must* be as narrowly interpreted as argued by applicant, the disclosure reads on applicant's claimed "changing a condition of heating of the second heating means while the support is being conveyed." Consequently, this argument is not persuasive.

Further, as noted in the prior Office action, the dried, coated substrate is eventually removed from the ultimate drying means (198). At such a time, the substrate is being conveyed

but the second heating means is no longer heating the coated substrate: a condition of heating has changed. Because applicant has not addressed this position, Yapel continues to anticipate claim 1.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 26-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 26 recites "...based on a detected condition of at least one of the support and the photosensitive coated layer while the support is being conveyed." This limitation is not supported by the originally-filed specification, which discloses only three possible detected conditions: the temperature of the support, the width of the support, and the temperature of the coating. The originally-filed disclosure does not support *any and all* detected conditions of either the support or the coating encompassed by the recited "a detected condition." Possession of one or more species does not support possession of an entire genus.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1 and 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Yapel et al. (US 5,906,862 A).**

With respect to claim 1, this reference teaches a method in which a conveyed support is coated with a photosensitive coating solution containing an organic solvent, the solution forming a coated layer on the substrate (abstract; 6:31-47; and 8:23-27). The coated support is dried and hardened by being conveyed through several heated gas (i.e., non-contact) drying means (6:49-8:21; 9:40-10:8; and 13:49-67). Each consecutive heating means is situated downstream of the one immediately before it (see Fig. 13). The coating is dry-to-touch (having a viscosity of 10^8-10^{10} poise) before exiting the penultimate heating means (8:40-41; 9:49-51; and 13:49-67). This reference explicitly states that the temperature of the drying gas may be progressively increased as the coated support is conveyed through the drying means (13:57-67). It is the examiner's position that this teaching reads on "changing a condition of heating of the second heating means while the support is being conveyed." Further, the examiner notes that the dried, coated substrate is eventually removed from the ultimate drying means. At such a time, the substrate is being conveyed but the second heating means is no longer heating the coated substrate: a condition of heating has changed.

With respect to claim 9, the photosensitive layer is heated by the all of the heating means (including the ultimate, or second, heating means) and the photosensitive layer is dry upon exiting the second heating means. Consequently, it is the examiner's position that the temperature of the coating upon exiting the second heating means inherently is predetermined to

be a temperature at which the particular coating is dry. Thus, Yapel satisfies the limitations of this claim as well.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 2, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yapel et al. (US 5,906,862 A).**

The disclosure of Yapel is detailed above and applied herein again for the same reasons.

With respect to claim 2, this reference does not explicitly state that the temperature of the penultimate, or first, heating means heats the photosensitive coated layer to 90°C or more. The temperature to which a coated photosensitive solution is heated to dry it is a result effective variable effecting the rate of drying and, thereby, the overall processing time. Consequently, absent a showing of unexpected results demonstrating the criticality of the claimed temperature of the first heating means, it would have been obvious to one of ordinary skill in the art to modify the method of Yapel to optimize this result-effective variable by routine experimentation.

With respect to claim 3, Yapel teaches that the coating material is dry-to-touch, meaning that it has a viscosity of 10^8-10^{10} poise (see above). Yapel does not explicitly teach the amount of organic solvent remaining in the coating layer after leaving the penultimate, or first, drying means. The amount of remaining solvent is a result-effective variable. If the amount of organic solvent remaining is too great, the coating material will not be dry-to-touch. Absent a showing

of unexpected results demonstrating the criticality of the claimed amount of residual solvent, it would have been obvious to one of ordinary skill in the art to modify the method of Yapel to determine the amount of solvent remaining in the coating layer after the hot air drying process by routine experimentation, thereby limiting the amount of solvent remaining so that the coating layer is dry-to-touch.

With respect to claims 5 and 6, it is the examiner's position that both radiation and induction heating systems are well-known means of heating air/gas for drying coatings.

With respect to new claim 26, this claim reads on visually or otherwise observing that the coating has been completely cured and removing said coating from the second drying means. As noted above, removing the coated support from the second drying means reads on "changing a condition of heating of the second heating means while the support is being conveyed."

9. **Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yapel et al. (US 5,906,862 A), as applied to claim 1 above, in further view of Ogasawara (US 5,731,038 A).**

The teaching of Yapel is detailed above and applied herein again for the same reasons. This reference does not explicitly teach that the condition of heating of the second heating means is changed while the support is being conveyed based on a detected condition of at least one of the support and the photosensitive coated layer while the support is being conveyed.

Ogasawara teaches a method in which a coated article is dried by being passed through a plurality of drying means. The temperature of the heaters is adjusted according to the rate with which the coated substrates move through the drying means (5:37-45). It is the examiner's position that the rate with which coated substrates move through the drying means reads on "a

detected condition of at least one of the support and the photosensitive coated layer while the support is being conveyed."

It would have been obvious to one of ordinary skill in the art to modify Yapel's method so as to adjust the temperature of any one of the drying means — including the ultimate drying means — so as to provide optimum curing for a given conveyor speed. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully curing the photosensitive coating while achieving optimum energy usage.

Allowable Subject Matter

10. Claims 12-14, 17-22, 24, and 25 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: Applicant amended claim 12 to recite that the supports, having different thicknesses or widths, are connected. The prior art neither teaches nor suggests this feature.

12. Additionally, while claims 27-29 are rejected under 35 U.S.C. 112, 1st Paragraph above, the prior art neither teaches nor suggests the features recited in these claims.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WPF 9/24/2004
William P. Fletcher III
Examiner
Art Unit 1762

B. C.

BRET CHEN
PRIMARY EXAMINER